Our Army At War - Relevant and Ready!

Making the Move to a Network Centric Army

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Army CIO/G-6
2 November 2004

Our Army At War – Relevant and Ready

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Immediate Progress

April to August 2004,

Our Army contracted and is now delivering a new Networking capability that will help *Transform* Deploying units into....

NetCentric, Modular, Unit's of Employment and Brigade Combat Teams!!

Modular

JTF Capable

Joint

UA/BCT
UEx/UEy

The Army is Changing *Now!*

Leveraging Commercial Capabilities

IP - Internet Protocol
JNTC-S - Joint Network Transport Capability-Spiral
NIPR - Non-secure Internet Protocol Router Network
SIPR - Secret Internet Protocol Router Network
SVTC - Secure Video Teleconference
WIN-T - Warrior Information Network – Tactical

JNTC-S

2004-2006
Commercial Technologies

Voice Over IP/Dynamic IP
SIPR/NIPR/Video/SVTC
Commercial/Military-Satellite
Communications

WIN-T
2006-2014
Advanced Technologies

- **Commercial satellite communications**
- **Wideband Gapfiller S (WGS)**

- **Advanced Extremely High Frequency (EHF)**
- **Mobile User Objective System (MUOS)**
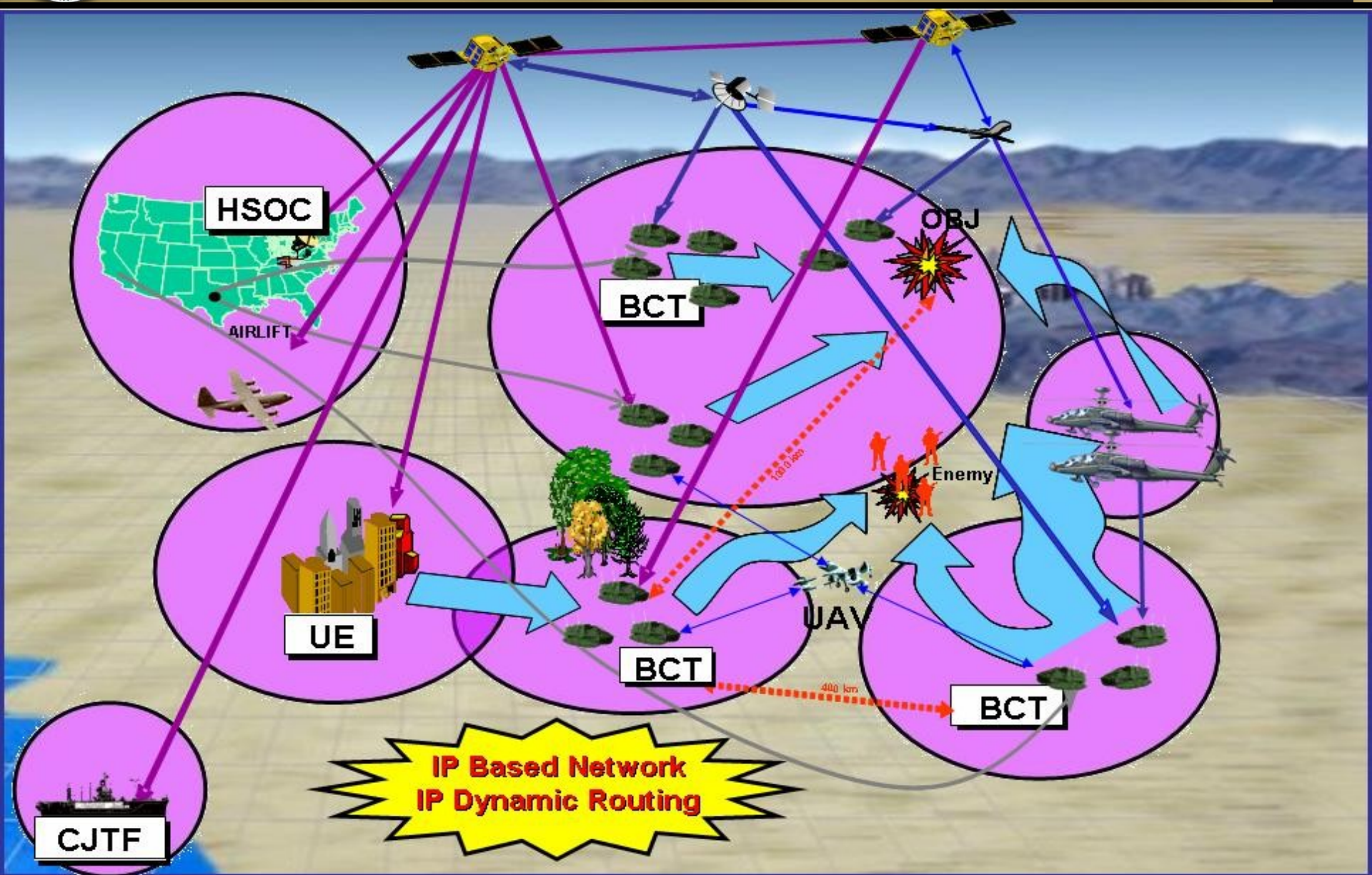- **Transformational Communications System (TCS)**

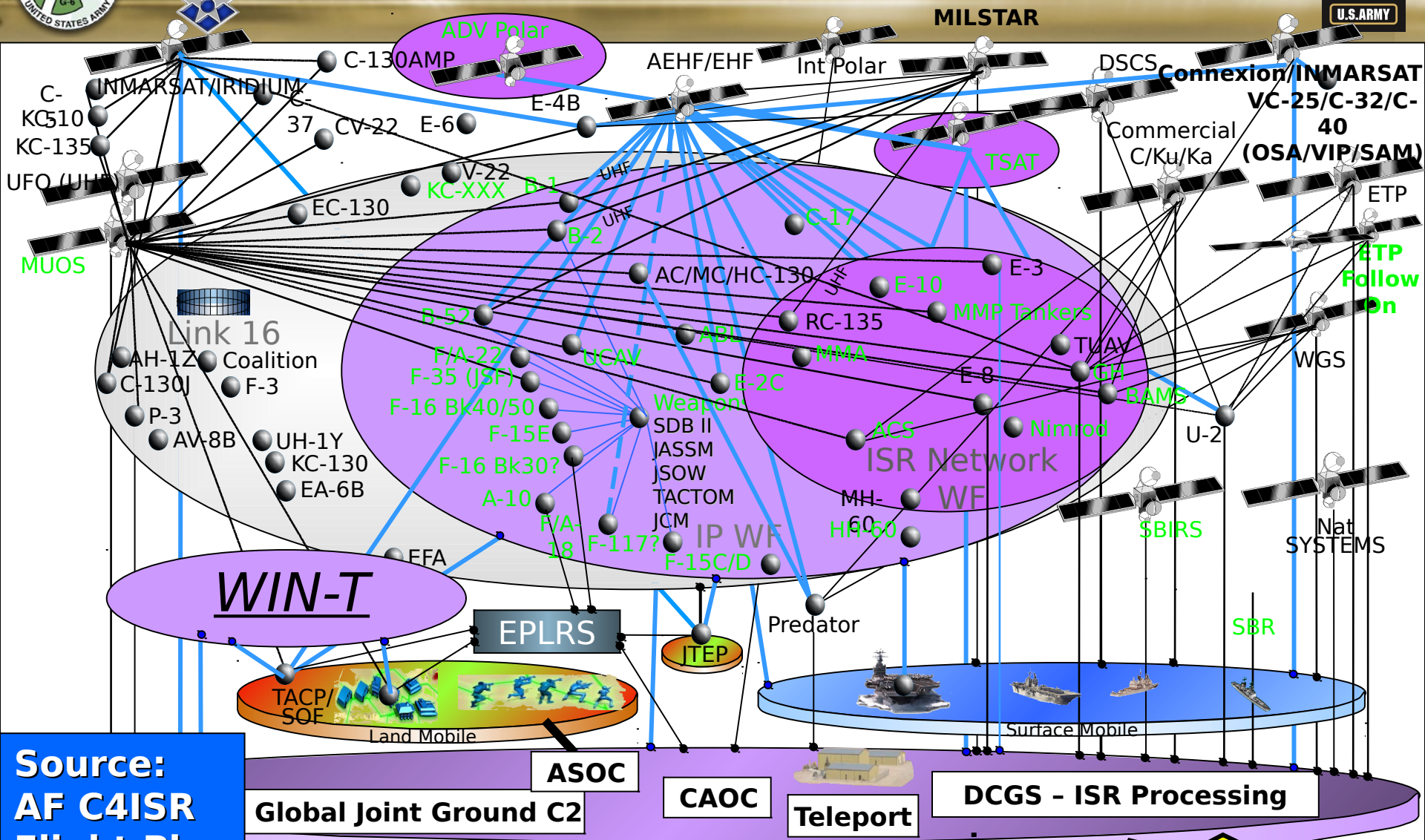- **Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T)**
- **Blue Force Tracking (BFT)**
- **Trojan Spirit**
- **Combat Service Support (CSS)**

USAR - acquired
- **Data Packages**
- **Flyaway Tri-Band Satellite Terminals**

U.S.ARMY

LONE ★ STAR

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C4ISR AF Constellation Net FY2013

CHIEF INFORMATION OFFICER(CIO) G-6 UNITED STATES ARMY

U.S.ARMY

MILSTAR

ADV Polar

C-130AMP

AEHF/EHF   Int Polar

DSCS   Connexion/INMARSAT VC-25/C-32/C-40 (OSA/VIP/SAM)

INMARSAT/IRIDIUM

E-4B

C-KC510   C-37   CV-22   E-6

KC-135

Commercial C/Ku/Ka

ETP

UFO (UHF)

V-22

KC-XXX   B-1   UHF

TSAT

EC-130

B-2   UHF

C-17

ETP Follow On

MUOS

AC/MC/HC-130   UHF   E-3

E-10

MMP Tankers

WGS

Link 16

B-52

RC-135

MMA

TUAV

G-4

AH-1Z   Coalition

F/A-22

ABL

E-8

BAMS

C-130J   F-3

F-35 (JSF)   UCAV

P-3

F-16 Bk40/50

E-2C

GCS   Nimrod   U-2

AV-8B   UH-1Y

F-15E

Weapon   SDB II

F-16 Bk30?

JASSM

KC-130

JSOW

EA-6B

A-10

TACTOM

F/A-18   F-117?   JCM   IP WF

MH-60   HH-60

SBIRS

WIN-T

EFA   F-15C/D

Predator

SBR

EPLRS

Nat SYSTEMS

JTEP

TACP/SOF

Land Mobile

ISR Network WF

Surface Mobile

Source: AF C4ISR Flight Plan

ASOC

Global Joint Ground C2

CAOC   Teleport   **DCGS – ISR Processing**

Fixed Joint Ground Infostructure

IP Based Network
IP Dynamic Routing

No Significant IP or Data Link Capability:
C-5 C-130AMP KC-10 KC-135 CV-22 E-6
C-40 AIP MH-53E SH60 HH-60H

Future platforms: E-10 ABL UCAV CV-22
More Aircraft connected via Link 16
Forwarding/gateway via ROBE, JTEP

JNTC-S Network Components "CSS"

Strategic

DOD LOGISTICS IS UNCLASS

Commercial KU SATCOM

Commercial Lines

GIG/DISN

Commercial SATCOM Facility

UEy/UEx/BCT (40 Ku VSATs 3 ID)

Delivered May 2004!

SARRS
ULS
SAMS
Etc.

Wireless CAISI

INMARSAT Terminals used as part of CSS Business Network for contingency c

Battalion Command Post

SARRS
ULS
SAMS

JNTC - S1

Wireless CAISI

2 Novemb

JNTC-S Network Components "INTEL"

Strategic

Commercial KU SATCOM

Commercial Lines

Trojan Spirit Network Control Center

Commercial SATCOM Facility

UEy/UEx/BCT (6 for 3 ID)

TS/SCI

One Trojan on KU Band - Proof of Principle

JNN Provides Transport Only Services to TS/SCI Networks At the BCT

Battalion Command Post in RSTA

TS/SCI

JNTC - S1

2 Novemb

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STEP Site DISN Services

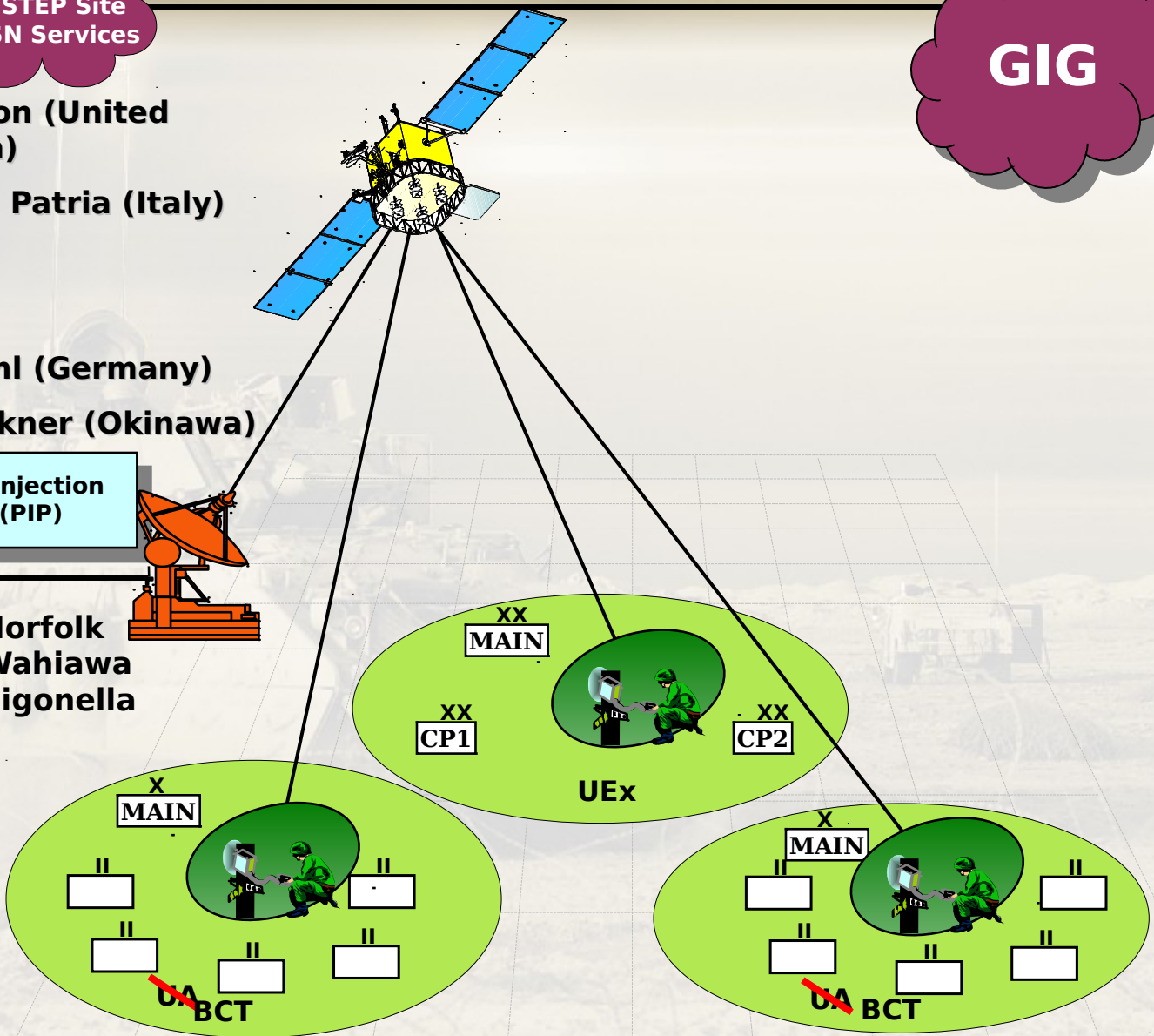**GIG**

PPP

Croughton (United Kingdom)

Lagos Di Patria (Italy)

Qatar

Bahrain

Landstuhl (Germany)

Fort Buckner (Okinawa)

Must move off commercial reliance

INMARSAT L-Band Satellite (Commercial)

LEASE CIRCUIT or DISN

L-Band Hub in Sanctuary

ISDN LINES

Vendor L-Band Hub

Trojan Spirit

CP1

CP2

CP3

UEy

CP

SBCT

XX MAIN

XX CP1

XX CP2

UEx

JTF

x USMC

X MAIN

II

II

II

II

II

UA BCT

X MAIN

II

II

II

II

II

UA BCT

JNTC - S1

JNTC-S: GBS (Transportable Ground Receive Suite)

STEP Site DISN Services

Croughton (United Kingdom)

Lagos Di Patria (Italy)

Qatar

Bahrain

Landstuhl (Germany)

Fort Buckner (Okinawa)

Primary Injection Point (PIP)

Norfolk
Wahiawa
Sigonella

GIG

PPP

TNCC

XX
MAIN

XX
CP1

XX
CP2

UEx

X
MAIN

X
MAIN

JNTC - S1

U/A
BCT

U/A
BCT
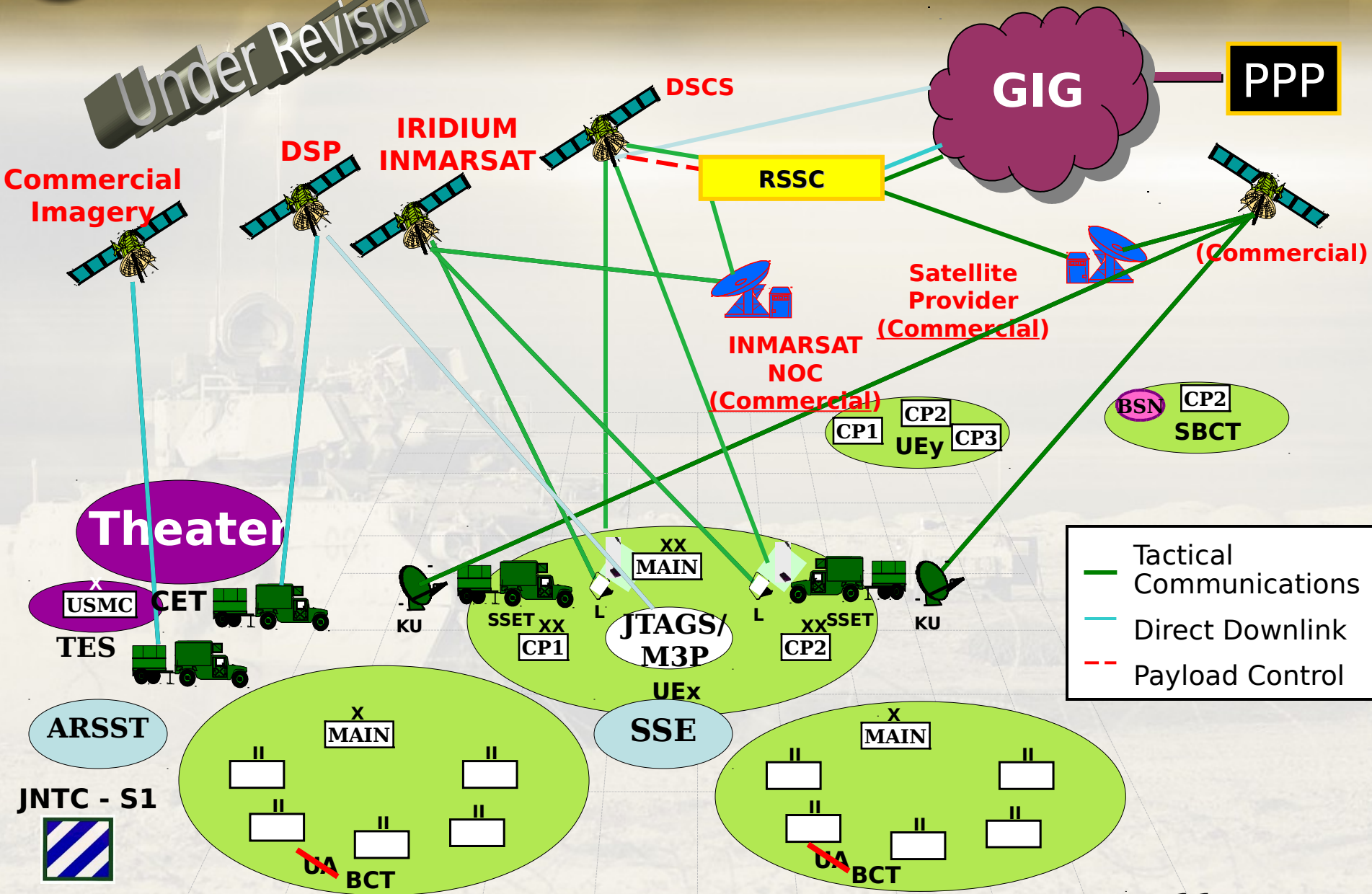
Delivering Now!

Sanctuary

Maximum Bandwidth is dependent on architecture

- **Existing E...** (green)
- **JNN Netw...** (tan)

Gateway Hub (2)

TDMA
40 Mbps
Shared
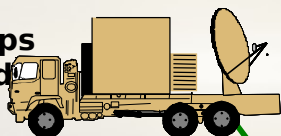
3.7m
FDMA
36 Mbps
Shared

Provides up to 76 Mbps Of Commercial SATCOM Bandwidth
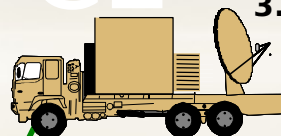
Baseband

GIG/DISN

Spiral in:

- **Ka Band**
- **Operations on the move**
  ....Ka and Ku
- **Wireless LAN**

UEx/ Brigade Combat Team

SMART-T
1.544 Mbps

1.024 Mbps

TSC-85/93

36 Mbps

...C190 V(3)
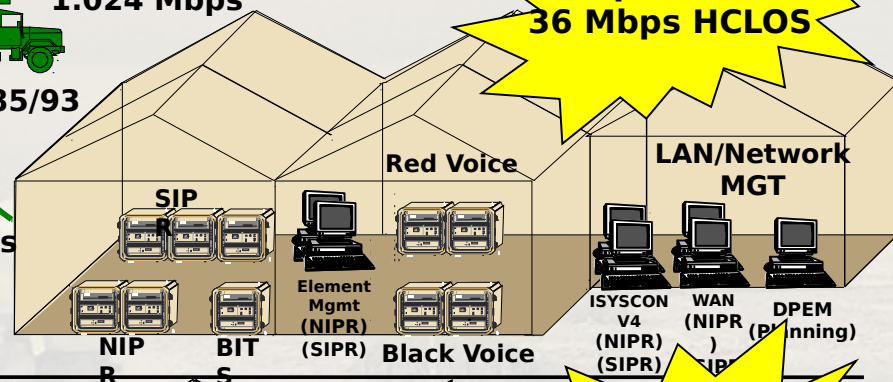
7 Mbps SATCOM 36 Mbps HCLOS

SIP

NIPR   BITS

Element Mgmt (NIPR) (SIPR)

Red Voice

Black Voice

LAN/Network MGT

ISYSCON V4 (NIPR) (SIPR)   WAN (NIPR)   DPEM (Planning)

Battalion

Command Post Node (34)

JNTC - S1

Ku   2.4m

2 Mbps

LOS TRC190 V(1)

Ku   SIPR

LAN MGT

ISYSCON V4 (SIPR)

4 Mbps Shared SATCOM 2 Mbps LOS

STEP Site DISN Services

TSC-85

Ku-Band Satellite

Global Hawk

GIG

HSOC

FDMA

SHF X-Band Satellite

TDMA

Ka-Band Satellite

KU-Band Satellite

LEASE CIRCUIT or DISN

Gateway Hub

INMARSAT L-Band Satellite

GBS x3 (Worldwide)

CSS Commercial Provider

GIG

U.S. Data Center

L-Band Hub in Sanctuary

Trojan Spirit

Internet

ISDN LINES

Vendor L-Band Hub

Trojan Spirit

JNN XX DMAIN

TGRS

Trojan Spirit

EHF-Band Satellite

JTF

Trojan Spirit

Trojan Spirit X2

TGRS

JNN XX DTAC

SMDC KU

JNN XX DTAC

SMART-T

SMART-T

x USMC

JNN

TSC-93

JNN x MAIN

Ku

Ku

JNN x MAIN

TGRS

CSS KU

Small Node

JNTC - S1

Ku

Ku

Ku

Ku

CSS KU

Ku

Ku

Ku

Ku

UABCT

UABCT

Concept: Jan 04

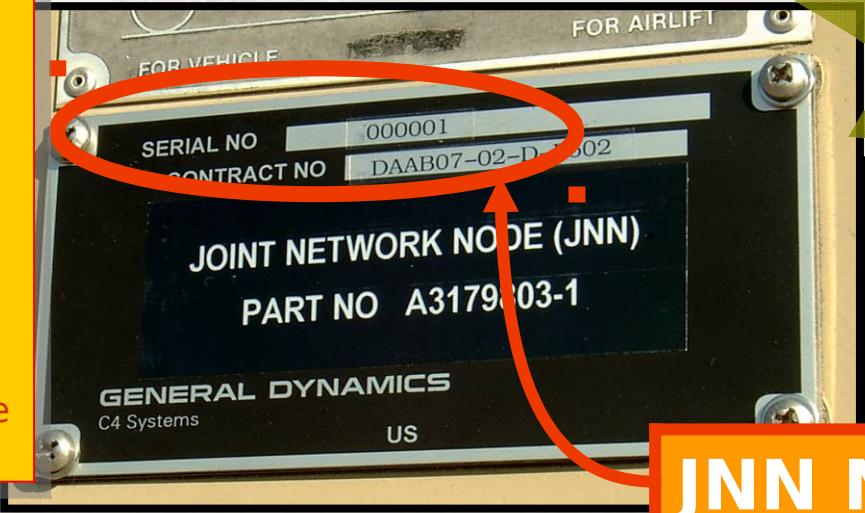**Transit Cases**

Hubs

KU Band Trailers

Training

<u>On-site:</u>
- System Management
- JNN Operator
- Ku Trailer Operator

<u>Schoolhouse:</u>
- $9 Million applied to future training

FOR AIRLIFT

FOR VEHICLE

SERIAL NO   000001
CONTRACT NO   DAAB07−02−D−_502

JOINT NETWORK NODE (JNN)

PART NO   A3179803-1

GENERAL DYNAMICS
C4 Systems   US

Delivery: 9 AUG !!

JNN Number 1

JNTC-S1 is being delivered TODAY!

Upgrading the infrastructure
……JNN end

Fort Gordon

JNN

CTSF

Training

United States Army
FORT GORDON
Main Gate

Testing

The Next Step

Data to Decision Superiority

Semantic Web

FBI Data

Data DOD

Data CIA
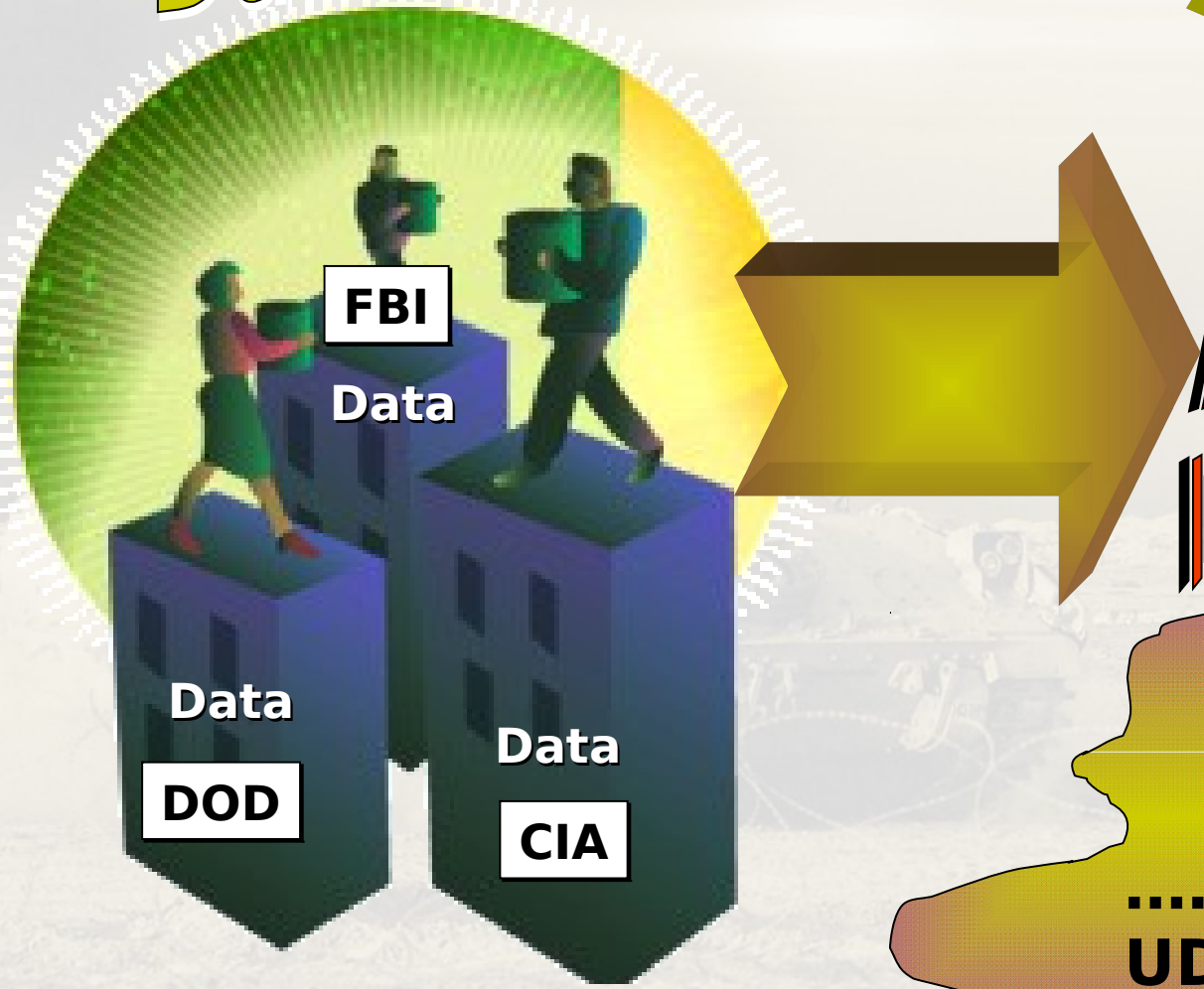
Rapidly Actionable Information

It's About Net Centric Enterprise Services ....UDI, RDF, XML, UDDI, SOAP, WSDL

Leveraging Enterprise Applications

DIMHRS - Defense Integrated Military Human Resources System

GCSS-A - Global Combat Service Support-Army

FMMP – Financial Management Modernization Program

ERP Apps

National Database

@ko
www.us.army.mil
Army Knowledge Online

Other Input

National Data Repository

Secure Guard

C2 Interface Database

Internet

Sensitive But Unclassified

Secret

8
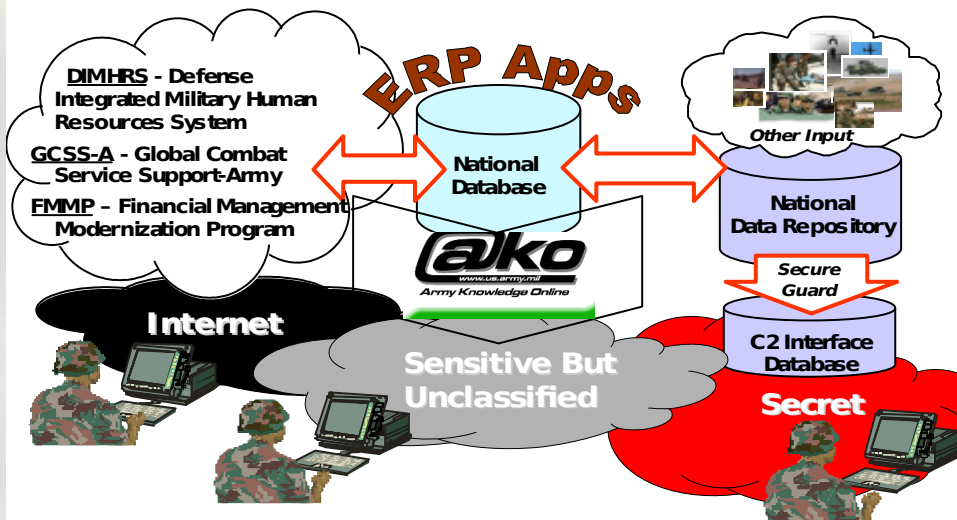
Individual Soldier Usage
Month of September 2004

71%		67%	
68%		84%	
60%		43%	
46%		76%	

Supporting the Global War on Terrorism

➢ **Universal Secure Access to Information (NIPR/SIPR)**

➢ **Force Development & Protection thru Knowledge**

  Sharing and Collaboration:
  — **RC Mobilization / Training and Lessons Learned**
  — **Arab Translators, USAR, NG, CID**
  — **HUMINT Search Engine / J-2 Intel Updates**
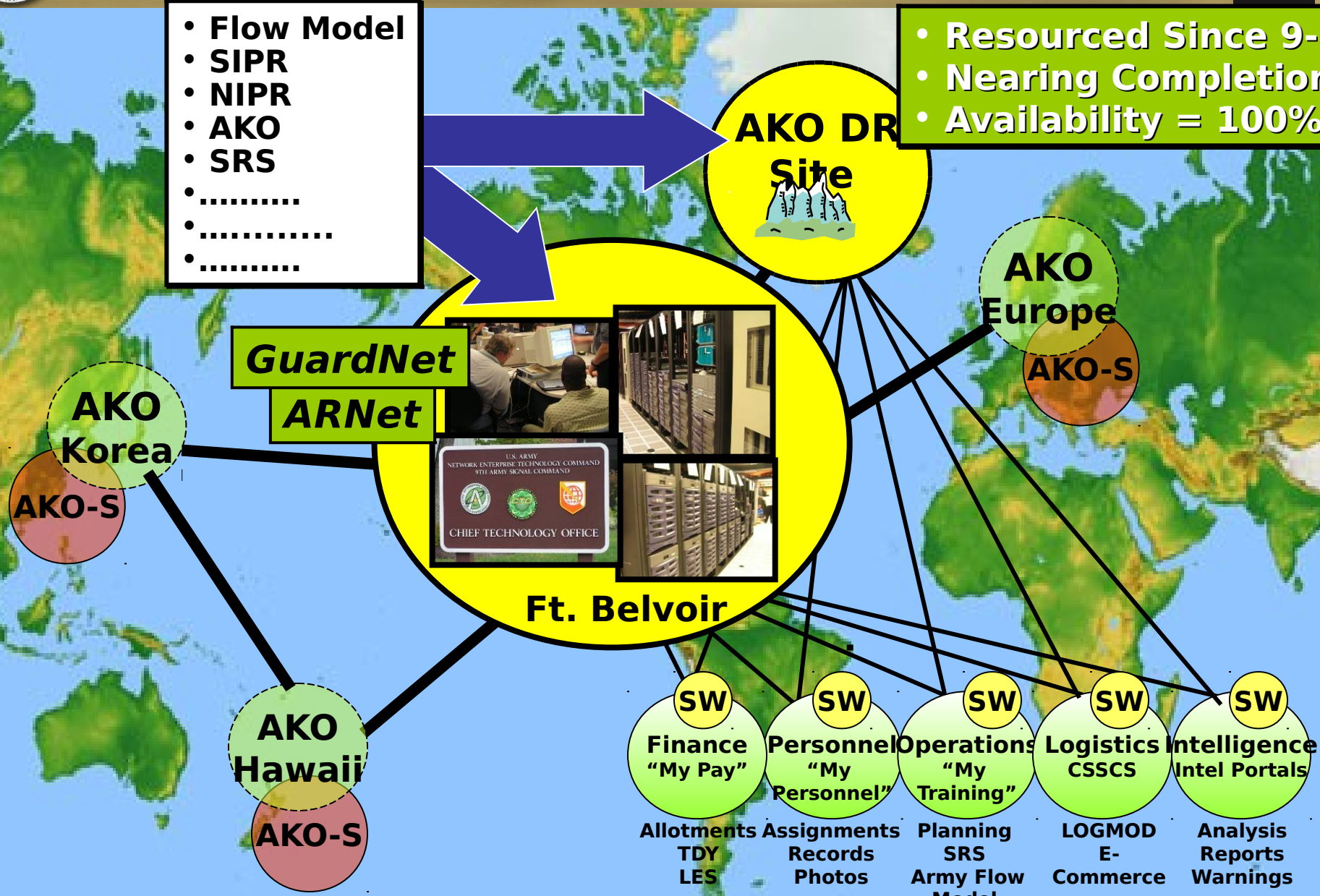
Supporting the Army's Business Areas

➢ **Access to Business Systems (e.g., DIMHRS)**

➢ **Single Sign-On / Authentication to functional domain information**

➢ **Secure sites for Family Readiness Groups**

➢ **Self-Service Information 24x7:**
  Medical Readiness   Personnel Records
  Finance (DFAS)   Computer Based

AKO – A Global Perspective

- **Flow Model**
- **SIPR**
- **NIPR**
- **AKO**
- **SRS**
- ....
- ....
- ....

AKO DR Site

- **Resourced Since 9-1**
- **Nearing Completion**
- **Availability = 100%**

AKO Europe

AKO-S

GuardNet

ARNet

AKO Korea

AKO-S

Ft. Belvoir

AKO Hawaii

AKO-S

SW
Finance "My Pay"

SW
Personnel "My Personnel"

SW
Operations "My Training"

SW
Logistics CSSCS

SW
Intelligence Intel Portals

| Allotments TDY LES | Assignments Records Photos | Planning SRS Army Flow Model | LOGMOD E-Commerce | Analysis Reports Warnings |

Web based applications accessed through AKO

- The Army is fielding advanced "Joint Interdependent" networking capabilities NOW!

- Army and Joint networks moving to IP based, IP Dynamic Routing – Joint Architecture

- Leveraging Commercial Technology - JNTC preparing to transition to WIN-T - - FCS

- AKO is a Core Warfighting Enabler

Questions?

G-6 SCIO
703-693-3064/3069